

Report of Director of Communities and Environment

Report to Executive Board

Date: 7th January 2020

Subject: Proposal for Woodland Creation

Capital Scheme: 33264/000/000

Are specific electoral wards affected? If yes, name(s) of ward(s):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Has consultation been carried out?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Will the decision be open for call-in?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, access to information procedure rule number: Appendix number:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Summary

1. Main issues

- This report sets out proposals on how the council can lead an ambitious initiative to combat climate change with a programme of education and community engagement focussed around tree planting and woodland creation.
- The Committee on Climate Change have advised that tree planting rates of at least 30,000 hectares per year will be required in order for the UK to reach net-zero greenhouse gas emissions by the year 2050. The contribution in Leeds could be equivalent to almost doubling the current tree canopy cover from 17.1% to approximately 33% which represents a further 9,000 hectares of woodland creation.
- The scale of this challenge is now becoming clear and presents a unique opportunity for the council to play a leading role via the Arium in education, community engagement and the provision of trees to establish an unprecedented tree growing programme. This will make Leeds a leading local authority nationally in responding to the need to grow and plant trees.
- The council's recreational land, grass verges and grass spaces around social housing equates to around 4,000 hectares of land which represents just over 7% of the total Leeds metropolitan area. Given that 9,000 hectares of additional tree cover is required then this would equate to 630 hectares of additional woodland. The need for action is clear and it is proposed as a minimum that 25 hectares of parks and green spaces needs to be planted each season with this figure reviewed

in the light of emerging national policy on this issue. There is potential to expand woodland planting to include other council land as the scheme develops.

- Community engagement and involvement is vital if such an ambitious programme of woodland creation is to be successful. The primary National Curriculum now has an emphasis on outdoor learning and there is scope to develop education packs for teachers using the Arium as a hub based around a wealth of opportunities in parks and green spaces across the city. There is also potential to encourage children and communities to help develop ideas on how more seeds can be collected and used for growing in the Arium.
- The process of identifying suitable Parks and Countryside sites for woodland creation will need to be intensified in order that potential woodland areas can be established. In many cases areas of land can be dedicated for woodland creation although there will be many examples of where appropriate woodlands can be created within the context of existing community parks and enhance the overall recreation value. There is also potential for woodland creation within the street scene environment, particularly on large grass verges, large spaces around social housing and banked areas that are difficult to access with mowing machinery.

2. Best Council Plan Implications (click [here](#) for the latest version of the Best Council Plan)

- The proposals in this report support the Vision for Leeds 2011 to 2030 and Best Council Plan aspiration for accessible, better quality green spaces. They also contribute to the council commitment to make Leeds carbon neutral by 2030.

3. Resource Implications

- To achieve the productive capacity required the Arium would need £151k of council capital in 2019/20. The cost to prepare the land, supply, plant, protect and establish each tree is estimated at £3 and on that basis to establish 630 hectares of closely planted woodland would require £8.5 million of capital funding.
- On the assumption that a minimum of 25 hectares is planted each year, an injection of £350k to the capital programme annually for the next 5 years is required. It is also assumed that £50k external funding is achieved in 2020/21 with a target to increase this by a further £50k in each subsequent year, thus reducing the amount of Council funding required each year. Given the uncertainty around availability of external funding, it is proposed that the programme is reviewed each year to determine the level of council resources required.

Recommendations

Executive Board is requested to:

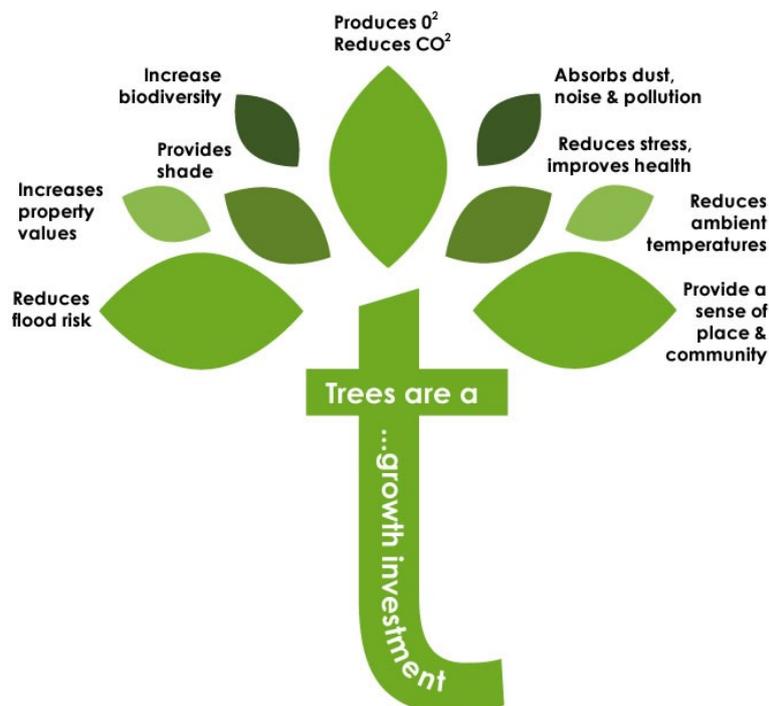
- a) Approve the approach to education, conservation and tree planting and to support initially a minimum of 25 hectares of council land allocated for woodland planting each year.
- b) To inject £0.35m per year annually into the capital programme over the next 5 years. The proposal will include external funding of £50k in the first year with a target to increase this by a further £50k in each subsequent year.
- c) To delegate authority to spend approval of the full scheme to the Director of Communities and Environment, subject to consultation with the Executive Member for Environment and Active Lifestyles.
- d) To note that the Chief Officer Parks and Countryside will be responsible for implementing this project with anticipated review each year to 2024/25.

1. Purpose of this report

- 1.1 This report sets out proposals on how the council can lead an ambitious initiative to combat climate change with a programme of education and community engagement focussed around tree planting and woodland creation. It outlines how the council can contribute towards increasing the tree canopy in Leeds from 17.1% to 33% in line with current advice from the Committee on Climate Change to mitigate greenhouse gas emissions. In particular it considers the potential for the Arium as a source of education and trees for planting and how council land can be used for woodland creation. This will make Leeds a leading local authority nationally in responding to the need to grow and plant trees.

2. Background information

- 2.1 In March 2019 the council passed a motion to declare a climate emergency in the city. In doing this the council made a commitment to make Leeds carbon neutral by 2030 in making a contribution to achieving no more than a 1.5°C global temperature increase above pre-industrial levels. A report to the council's executive board in September 2019 set out how parks and green spaces can be adapted in response to the effects of climate change, including the benefits of trees.
- 2.2 Trees are a vital part of the natural environment and in removing carbon dioxide from the atmosphere provide oxygen and this vital function forms a crucial role in mitigating the effects of greenhouse gas emissions. They also act as air filters capturing harmful pollutants by trapping them on their leaves and bark and thus improve air quality. Woodlands provide places of escape and connection with nature enabling people to relax and unwind benefitting both mental and physical health. Trees and woodlands are important habitats for wildlife – for small mammals as well as insects. Mature trees provide place to shade and reduce urban temperatures. Trees and woodlands help alleviate flooding in particular by reducing the amount of rainwater entering watercourses and slowing water run-off.



- 2.3 As an illustration of the importance of trees to climate change, over 1,400 trees were surveyed on the University of Leeds campus, with more than 130 different species identified. Measurements of the trees were combined with specialist software to estimate the benefits being provided by the campus trees. Over their lifetimes, the trees are estimated to have taken in, and are now storing, over 540 tonnes of carbon (which is almost 2000 tonnes of CO₂). Every year, it is estimated that the campus trees are removing a further 18 tonnes of carbon (66 tonnes of CO₂) from the air and it is estimated that the trees on campus can remove around 350 kg of air pollution each year.
- 2.4 Beyond formal parks, the Council is incorporating extensive tree planting into many of mainstream projects and programmes. Members will be aware that the Flood Alleviation Scheme 2 incorporates proposals to plant up to 2 million trees in the upper Aire catchment as part of an extensive programme of natural flood management. In addition, the design of the East Leeds Orbital has been fully developed in line with Green Streets principles with 5,000 trees already planted as part of the enabling works. The improvements to public realm in the city centre through the Our Spaces Strategy is also helping to green the city centre, whilst the £174m Leeds Public Transport Improvement Programme also incorporates Green Street principles including substantial tree planting.
- 2.5 A study of the tree canopy in Leeds funded by the United Bank of Carbon in association with the University of Leeds has recently been concluded using aerial image data. On average 17.1% of the 55,170 hectares that make up the metropolitan district represents tree canopy cover, which is equivalent to 9,434 hectares. The Committee on Climate Change have advised that tree planting rates of at least 30,000 hectares per year will be required in order for the UK to reach net-zero greenhouse gas emissions by the year 2050.

3. Main issues

3.1 National Perspective

- 3.1.1 If Leeds contributes to this in line with its current share of national emissions and plants trees within the city boundary, the planting would be equivalent to almost doubling the current tree canopy cover to approximately 33%, or nearly 9,000 hectares. The scale of this challenge is now therefore becoming clear and presents a unique opportunity for the council to take a lead role in an ambitious programme of education, community engagement and tree planting.
- 3.1.2 There has been heightened interest in this agenda both nationally and in Leeds which has gained considerable momentum in 2019 ahead of the forthcoming tree planting season over the winter and early spring 2020. This has resulted in an increase in demand for trees to be planted and national funding schemes are becoming over-subscribed and unable to meet demand. Furthermore, charities such as Trees for Cities and The Woodland Trust over many years have been a valuable sources of funding for tree planting, contributing to over 85,000 trees planted by Parks and Countryside over the last five years. The impact of increasing demand has meant that they have been unable to make as much funding available in Leeds for woodland planting for the 2019/20 season as in previous years, with a maximum of 8 hectares of funded woodland creation anticipated.

3.2 Role of The Arium

- 3.2.1 It is likely that as demand increases then the availability of trees will become more limited, placing further pressures on the ability to plant woodlands. It is becoming

clear that in order to increase the tree canopy cover in Leeds it will be necessary to take an active role to increase the availability of saplings for woodland planting.

3.2.2 The Arium (the council's horticultural nursery) is now well-established with the potential to further play a leading role in education and community engagement, with the provision of trees through a tree growing programme. No other local authority has had the foresight to develop such a facility that can now play an important role in addressing climate change issues. The Arium would enable trees to be sourced and grown locally thus reducing transportation and limiting the potential spread of pests and diseases, which are already restricting tree imports.



Image 1 The Arium



3.2.3 In order to develop this potential it would be necessary to invest in the plant and equipment necessary to grow tree stock from seed as this differs significantly from that required to meet current growing needs, employing a technique known as stratification. Equipment required includes walk in refrigeration units, dipping tanks, seed storage chambers, elevated benching and an area to acclimatise the newly formed saplings to the outdoor environment. All this equipment and capacity for growing could be accommodated within the existing glasshouse footprint along with utilising available land on site.

3.2.4 Given the right equipment and availability of seed, then it would take 2 years to grow saplings ready for planting which would be available for the 2021/22 planting season. In order to prepare for the 2020/21 planting season, the Arium will acquire 1 year old established seedlings which could then be grown on in the Arium to woodland transplants that can then be directly planted into the ground.



Image 2 Cell grown trees

- 3.2.5 Given the right level of investment and funding it is projected that the Arium will be able to provide the following growing programme over the next five years:

Description	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Transplants (ready to plant)		110,000	110,000	110,000	110,000	110,000
Growing on (in the glasshouse)	121,000	121,000	121,000	121,000	121,000	121,000
Germinated seedlings (stratification)	133,100	133,100	133,100	133,100	133,100	133,100
Total	254,100	364,100	364,100	364,100	364,100	364,100

- 3.2.6 The quantity of woodland transplants growing at any one time within the Arium allows for losses during germination and growing on, which would be expected for this type of activity. The outcome will mean that there are sufficient woodland transplants available each year to meet the minimum needs of the programme.

3.3 Council Owned Land

Parks and Green Spaces

- 3.3.1 The council's recreational land, grass verges and grass spaces around social housing equates to around 4,000 hectares of land and this is managed by the Parks and Countryside service. This land represents just over 7% of the total Leeds metropolitan area. Given that 9,000 hectares of additional tree cover is required across the city, then 7% equates to 630 hectares (assuming that Leeds meets the current allocation indicated by the Committee on Climate Change).
- 3.3.2 It should be noted that the implications following the Commission on Climate Change findings are still being assessed. In particular tree planting policy at a national level needs to be developed to inform how this issue will be addressed given for example that 93% of the remaining land in Leeds is mainly in private ownership. This policy will need to be developed to include current agricultural land and new spaces within developments.

Woodland Planting Proposal

- 3.3.3 The need for action is clear and therefore an immediate baseline planting programme is required. Existing parks and green spaces can easily be identified and adapted for woodland planting and therefore it is proposed to create woodlands on these sites whilst other potential locations are identified. On this basis, 25 hectares of parks and green spaces would need to be identified each year for intensive woodland creation (based on a 25 year timeframe) which can be expanded upon as research and policy initiatives develop and scope for additional funding is better understood. The most effective and efficient means to establish woodland is through close planting at around 1.5m spacing which represents 4,500 saplings per hectare equating to a planting target of over 2.8m trees from 2020 to 2045, or 112,500 trees each year. This is an ambitious programme and represents around 3 times the area planted compared to that achieved in recent years.

Future Potential for Expansion

- 3.3.4 As indicated, as the scheme develops there is the potential to expand this initiative to other council land. Overall, the Council owns in the region of 9,000ha of land and is undertaking a comprehensive review of both its operational and investment assets, which may lead to additional land being made available for alternative

uses. The Council's agricultural land portfolio will be reviewed to identify opportunities for additional areas of tree planting as lease events occur. However, this must be balanced with the demand for good quality agricultural land to support food production. Equally, as buildings become surplus to the Council's requirements and sites become available for new uses, the suitability of sites, in part or as a whole, for tree planting will be considered, whilst also considering wider inclusive growth opportunities through the delivery of housing and employment opportunities.

Education and Community involvement

- 3.3.5 Community engagement and involvement is vital if such an ambitious programme of woodland creation is to be successful. As suitable sites are identified, local ward members will be consulted initially before wider involvement with relevant community groups and making plans available publicly. This initiative will also include continuing to implementing the approach to adapting parks and green spaces to climate change as outlined to Executive Board in September 2019. Draft plans are being developed focussed initially on the 63 community parks in Leeds with other parks and recreation grounds considered as appropriate. It is anticipated that some measures which are easy to implement such as appropriate areas of relaxed mowing will commence during the 2020 season, adding to the sense of the importance that a more naturalistic approach can have to the environment and wildlife.
- 3.3.6 The primary National Curriculum now has an emphasis on outdoor learning. As part of the programme education packs will be developed for teachers to use the Arium as a hub to include information about seed gathering, germination, establishment and the wider benefits trees to the environment. Countryside rangers in Parks and Countryside already work with local schools to gather seeds which will be sent to the Arium for stratification, growing on and subsequently replanted. There is potential to encourage children and communities in developing ideas on how more seeds can be collected and used in this way. One example might be for children to collect seeds, bag them and take them to the Arium in exchange for a free sapling. Collection points with accompany interpretation will be provided in local parks so that people can gather seeds for subsequent distribution to the Arium and actively contribute to tree production.



Image 3 Seed Gathering

- 3.3.7 An equally important factor is harnessing the enthusiasm and passion for action on climate change and providing volunteer opportunities for seed gathering and tree planting to make a real difference in local communities. The Fridays for Future movement has seen marches internationally and in Leeds involving children and young people conducting 'strikes' from school to raise awareness of climate change

issues. Extinction Rebellion held a protest in Leeds city centre lasting 5 days in July last year. Woodland creation therefore presents an opportunity to engage and educate children and the wider community in tree planting.



Image 4 Volunteer tree planting

3.3.8 With regard to tree planting it is proposed that as suitable sites are identified for woodland planting that compartments are identified suitable to allow the potential for volunteer planting. These areas would be of sufficient size to potentially accommodate a large number of volunteers and make the most of machinery for land preparation as well as ensuring suitable fencing is in place to prevent unauthorised access. Once volunteers are identified (such as corporate groups, ‘friends of’ groups and activists), suitable supervision arrangements would be put in place to ensure a suitable mix of trees planted in a way maximises the benefits for climate change mitigation, habitat creation, pollinators and recreation. There is already a huge commitment to practical volunteering on parks and green spaces representing 24,000 volunteer days each year. As woodland sites are developed interpretation boards can also enable a better understanding of the important role that they provide. A recent example is at King Alfred’s Field, which has recently been planted and is illustrated below:



Image 5 King Alfred’s Field

Funding Requirements

3.3.9 To achieve the productive capacity to grow saplings the Arium would require £151k of council capital in 2019/20. These would be premium quality cell grown saplings (as opposed to those with exposed bare roots) ensuring that roots are protected by compost, do not dry out and make it easier to plant, thus extend the planting season and enable them to be established successfully. There would be a mix of tree

species produced not only for woodland creation, but pollinator mixes (including fruit trees) and trees to form hedgerows. The cost to supply each tree from the Arium equates to an average of £1 per tree which is broadly comparable with cell grown trees from commercial suppliers but with the added value of being locally sourced and grown along with the benefits of the education and engagement programme.

- 3.3.10 In order to maximise the establishment of a newly created woodland it is important to conduct land preparation, typically involving a tractor using a cultivator to create what is known as a rip channel. This provides well-drained soil to ensure the best opportunity for each tree to be established. It is also important to ensure suitable protection measures are in place both from wildlife and unauthorised access that may damage the saplings, whilst still providing paths and clearings for recreational visits. All woodland creation will be in accordance with the UK Woodland Assurance Standard (UKWAS), an independent certification standard for verifying sustainable woodland management.
- 3.3.11 The final factor is planting the trees, which typically involves gardening teams from the Parks and Countryside service over winter. Given the scale of the planting required it is inevitable that most planting work will involve employed members of staff, although as discussed there is significant potential to engage communities and volunteers. Once trees have been planted it is also necessary to ensure that weed suppression is undertaken for at least the first three years around the base of each tree to ensure that saplings are not overwhelmed by competing vegetation.
- 3.3.12 The overall cost to prepare the land, supply, plant, protect and establish a tree is estimated at £3. This also includes undertaking land ownership and underground service checks, handling, storage and delivery of trees to site as well as dealing with any statutory matters including conducting environmental impact assessments/notification to the Forestry Commission. In addition this cost includes additional resources to facilitate voluntary planting and other elements of community engagement such as seed gathering. On the basis of £3 per tree, the overall cost to achieve an additional 630 hectares is £8.5 million over the life of the initiative. Whilst there have been difficulties in accessing suitable funding in 2019/20, there are potential opportunities for funding in future years from such as carbon offsetting schemes, crowd funding and any other grant funding that may be made available. Given this uncertainty, it is difficult to assess how much funding will be available each year for tree planting. The overall funding requirement is £350k each year and it is estimated that £50k of external funding could be achieved in 2020/21 with a target to increase this by a further £50k in each subsequent year to limit the amount of capital each year that would need to be found from the council.
- 3.3.13 There are examples where organisations such as The Woodland Trust and Trust for Conservation Volunteers (TCV) provide trees for 'free' but do not provide the education and engagement element of this proposal. Therefore as discussed earlier in this report the sapling represents a small proportion of the overall cost of planting and establishing each tree. It is also worth noting that these trees contain bare roots and are not comparable to the trees that the Arium would provide which are cell grown. Trees provided in this way can however make a valuable contribution and where this is the case it is assumed that this is included in the external funding target.
- 3.3.14 Given the uncertainty around availability of external funding, it is proposed £350k is injected annually with the programme reviewed each year to determine the level of council resources required. Identifying capital in this way provides added flexibility to how funding is allocated. If for example there was considerable success in

identifying external funding sources then a smaller capital sum would be required which could be reallocated in future years. Conversely it may be necessary to allocate more capital funding if the external match funding was not achieved. It would therefore be necessary to review on a year by year basis what capital funding would be required with a view to establishing subsequent future capital requirements.

Identifying sites

- 3.3.15 The process of identifying suitable sites for woodland creation will need to be intensified in order that potential woodland areas can be established. In many cases areas of land can be dedicated for woodland creation although there will be many examples of where appropriate woodlands can be created within the context of existing community parks to enhance the overall recreation value. There is also potential for woodland creation within the street scene environment, particularly on large grass verges, large spaces around social housing and banked areas that are difficult to access with mowing machinery.
- 3.3.16 When a woodland is planted it is clearly with the long term intention that land is not used for any other purpose. It is therefore important that liaison is conducted across the council to determine if there could be other potential plans or alternative future usage of potential sites. It is also important that underground service checks are conducted to ensure that when trees mature that there are no issues with utilities, any other features underground, or indeed overhead. Due consideration also needs to be given to the potential long term impact on any adjacent properties due to trees maturing on the woodland fringe.
- 3.3.17 It is important to recognise that when creating woodlands in this way that appropriate recreation features such as interpretation panels, paths, clearings and picnic benches will be incorporated to enable public access and for people to connect with nature. Trees will also be selected to incorporate native broad leaf species to maximise carbon capture and storage along with other species resilient to future changes in the climate. A further important consideration is creating wildlife habitats and including a mix of trees to benefit pollinating insects.



Image 6 Mix of woodland trees that benefit pollinators

- 3.3.18 As indicated there has been considerable interest in tree planting with suggestions made often in the street/urban environment. It is important to note that in this context it is important to select appropriate trees in the right location to ensure there are no long term consequences. In some locations establishing tree planting using saplings is not appropriate for example on smaller grass verges where it may be necessary to plant fewer larger trees for survivability and visual impact. For larger trees the cost of tree planting and establishment needs to be assessed based on the circumstances of each site. In community parks and other green spaces there

is often opportunity for fringe planting or to complement existing mature trees which often also require larger trees to be planted.

3.3.19 In some dense urban areas where soil underground is limited, the cost of establishing trees can be substantial due to the need to establish sufficient root growth area and protection for highway infrastructure and services. The Green Streets initiative is the main source of available funding and this will be used along with other opportunities for additional funding that may arise to establish trees in suitable locations to enhance the local environment. The capital sum alluded to above will be used for sapling planting and will therefore not be used to fund larger trees in street scene environment.

4. Corporate Considerations

4.1 Consultation and engagement

- 4.1.1 When a woodland is planted it is clearly with the long term intention that land is not used for any other purpose. It is therefore important that liaison is conducted across the council to determine if there could be other potential plans or alternative future usage of potential sites. It is also important that underground service checks are conducted to ensure that when trees mature that there are no issues with utilities, any other features underground, or indeed overhead.
- 4.1.2 Community engagement and involvement is vital if such an ambitious programme of woodland creation is to be successful. Many local ward members are already engaged in putting forward ideas for tree planting sites and this information will complement other potential woodland creation sites identified. All sites will be assessed to ensure suitability and local ward members will be consulted initially before wider involvement with relevant community groups and making plans available publicly. Sites identified for planting will be captured using geographical information systems indicating the location, area and details of tree species. This information will prove useful in identifying volunteer opportunities as well as sharing relevant data with partner organisations. Local planting schemes that require larger trees whilst not included in the capital proposals outlined above are nevertheless important in gaining public acceptance to the importance of trees in an environment that needs to change to meet the challenges of climate change.
- 4.1.3 The primary National Curriculum now has an emphasis on outdoor learning and the Parks and Countryside service already facilities educational visits for over 40,000 children each year. There is scope to develop education packs for teachers using the Arium as a hub based around a wealth of opportunities in parks and green spaces across the city. Countryside rangers in Parks and Countryside already work with local schools to gather seeds which could be sent to the Arium for growing on and subsequently replanted. There is potential to encourage children and communities in developing ideas on how more seeds can be collected and used in this way. One example might be for children to collect seeds, bag them and take them to the Arium in exchange for a free sapling. Collection points with accompany interpretation could be provided in local parks so that people can gather seeds for subsequent distribution to the Arium and actively contribute to tree production.
- 4.1.4 With regard to tree planting it is proposed that as suitable sites are identified for woodland planting that compartments are identified suitable to allow the potential for volunteer planting. These areas would be of sufficient size to potentially accommodate a large number of volunteers and make the most of machinery for land preparation as well as ensuring suitable fencing is in place to prevent

unauthorised access. Once volunteers are identified, suitable supervision arrangements would be put in place to ensure a suitable mix of trees planted in a way maximises the benefits for climate change mitigation, habitat creation, pollinators and recreation.

4.2 Equality and diversity / cohesion and integration

4.2.1 An equality, diversity, cohesion and integration screening has been completed.

4.3 Council policies and the Best Council Plan

4.3.1 The proposals in this report support the Vision for Leeds 2011 to 2030 and in particular the aspiration that 'there are high quality buildings, places and green spaces, which are clean, looked after, and respect the city's heritage, including buildings, parks and the history of our communities' as part of the overall aim that 'all Leeds' communities will be successful'. The proposals contribute to the Best Council Plan outcomes to 'enjoy happy, healthy, active lives', and 'enjoy greater access to green spaces, leisure and the arts' and also priority 20 'enhancing the quality of our public realm and green spaces'.

Climate Emergency

4.3.2 The purpose of this report is to address climate change issues with proposals to commence an ambitious tree planting programme focussed on parks and green spaces. This will make an important contribution to the council commitment to make Leeds carbon neutral by 2030 following the declaration of a climate emergency in March 2019.

4.4 Resources, procurement and value for money

4.5 To achieve the productive capacity to grow saplings the Arium would require £151k of council capital. These would be premium quality cell grown saplings (as opposed to those with exposed bare roots) ensuring that roots are protected by compost, do not dry out and make it easier to plant, extend the planting season and enable them to be established successfully. There would be a mix of tree species produced not only for woodland creation, but pollinator mixes (including fruit trees) and trees to form hedgerows. The cost to supply each tree from the Arium equates to an average of £1 per tree which is broadly comparable with cell grown trees from commercial suppliers but with the added value of the education and engagement programme.

4.6 In order to maximise the establishment of a newly created woodland it is important to conduct land preparation, typically involving a tractor using a cultivator to create what is known as a rip channel. This provides well-drained soil to ensure the best opportunity for each tree to be established. It is also important to ensure suitable protection measures are in place both from wildlife and unauthorised access that may damage the saplings, whilst still providing paths and clearings for recreational visits.

4.7 The final factor is planting the trees, which typically involves gardening teams from the Parks and Countryside service over winter. Given the scale of the planting required it is inevitable that most planting work will involve employed members of staff, although as discussed there is significant potential to engage communities and volunteers. Once trees have been planted it is also necessary to ensure that

weed suppression is undertaken for at least the first three years around the base of each tree to ensure that saplings are not overwhelmed by competing vegetation.

- 4.8 The overall cost to prepare the land, supply, plant, protect and establish a tree is estimated at £3. On that basis the overall cost to achieve an additional 630 hectares is £8.5 million over the life of the initiative. Whilst there have been difficulties in accessing suitable funding in 2019/20, there are potential opportunities for funding in future years from such as carbon offsetting schemes, crowd funding and any other grant funding that may be made available. Given this uncertainty, it is difficult to assess how much funding will be available each year for tree planting. The overall funding requirement is £350k each year and it is estimated that £50k of external funding could be achieved in 2020/21 with a target to increase this by further £50k in each subsequent year to limit the amount of capital each year that would need to be found from the council.

Capital Funding and Cash Flow

- 4.8.1 Given the uncertainty around availability of external funding, it is proposed £350k is injected annually with the programme reviewed each year to determine the level of council resources required. Identifying capital in this way provides added flexibility to how funding is allocated. If for example there was considerable success in identifying external funding sources then a smaller capital sum would be required which could be reallocated in future years. Conversely it may be necessary to allocate more capital funding if the external match funding was not achieved. It would therefore be necessary to review on a year by year basis what capital funding would be required with a view to establishing subsequent future capital requirements.
- 4.8.2 The table below provides a summary breakdown of the capital cost requirement based requirements in year to establish productive capacity in the Arium and woodland planting over a five year projection.

Authority to Spend required for this Approval	TOTAL £000's	TO MARCH 2020 £000's	FORECAST				
			2020/21 £000's	2021/22 £000's	2022/23 £000's	2023/24 £000's	2024 ON £000's
LAND (1)	0.0						
CONSTRUCTION (3)	1650.0		330.0	330.0	330.0	330.0	330.0
FURN & EQPT (5)	40.0	40.0					
DESIGN FEES (6)	0.0						
OTHER COSTS (6)& (7)	211.0	111.0	20.0	20.0	20.0	20.0	20.0
TOTALS	1901.0	151.0	350.0	350.0	350.0	350.0	350.0
Total overall Funding (As per latest Capital Programme)	TOTAL £000's	TO MARCH 2020 £000's	FORECAST				
			2019/20 £000's	2020/21 £000's	2021/22 £000's	2022/23 £000's	2023 ON £000's
LCC:	1151.0	151.0	300.0	250.0	200.0	150.0	100.0
External funding	750.0		50.0	100.0	150.0	200.0	250.0
Total Funding	1901.0	151.0	350.0	350.0	350.0	350.0	350.0
Balance / Shortfall =	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.9 Legal implications, access to information, and call-in

- 4.9.1 There are no legal issues identified with this report or with access to information. The report is subject to call in under the Council's constitution, rules and procedures.

4.10 Risk management

4.10.1 The scale of the challenge to harness the benefits of trees and woodland creation in meeting climate change targets, is now becoming clear. This presents a unique opportunity for the council to play a leading role in education and community engagement through the provision and growing of trees. A funded programme will however be essential to achieve these ambitions.

5. Conclusions

5.1 The benefits that trees provide are well understood, with the role in mitigating the effects of climate change now becoming clearer along with the scale of the challenge that is faced. This presents a unique opportunity for Leeds to establish an ambitious programme of woodland creation and tree planting that will engage communities, involve schools and children to improve learning and understand the benefits to the environment. This programme will enhance recreation and conservation value and demonstrate again that Leeds can lead the way and take action that will benefit future generations.

6. Recommendations

6.1 Executive Board is requested to:

- Approve the approach to education, conservation and tree planting and to support initially a minimum of 25 hectares of council land allocated for woodland planting each year.
- To inject £0.35m per year annually into the capital programme over the next 5 years. The proposal will include external funding of £50k in the first year with a target to increase this by a further £50k in each subsequent year.
- To delegate authority to spend approval of the full scheme to the Director of Communities and Environment, subject to consultation with the Executive Member for Environment and Active Lifestyles.
- To note that the Chief Officer Parks and Countryside will be responsible for implementing this project with anticipated review each year to 2024/25.

7. Background documents¹

7.1 None.

¹ The background documents listed in this section are available to download from the council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.